STANDARDS COORDINATING COMMITTEE (SCC) MINUTES
5 MARCH 1996

1. *INTRODUCTION/OPENING REMARKS*

Colonel James Williams, Chairman, Standards Coordinating Committee (SCC) and Deputy Commander, Center for Standards (CFS), welcomed the members to the eighteenth meeting of the SCC. A complete list of attendees is attached as Appendix A. COL Williams stated that there were several topics that need to be resolved today by the SCC. These included voting on Version 3.0 of the Technical Architecture for Information Management (TAFIM), resolution of the Symbology frames issues of MIL-STD 2525 and agreement on staffing and funding of the International Program Office. He highlighted these important issues. He then addressed the issue of the Joint Technical Architecture (JTA) for Systems Interoperability. He highlighted the efforts to date and the compressed schedule the IT community was working on to complete this task. COL Williams
informed the SCC that Dr. Perry is delayed due to traffic. The schedule will be adjusted to accommodate the change. COL Williams introduced Mr. Ramaswami and the Status Brief for the Joint Technical Architecture.

2. *JOINT TECHNICAL ARCHITECTURE (JTA) Status Brief*

Mr. Raj Ramaswami, Principal Deputy, Center for Standards, JIEO provided an update to the SCC on what has been accomplished on the JTA within the CFS since the December meeting. He explained that the scope of the JTA Version 1.0 focuses on Joint C4I Interoperability and the standards essential to go to war. Future versions of the JTA will address portability and scalability. It will also add standards that promote cost reduction and greater efficiency and speed of fielding.

He stated that system developers will use the JTA for the development of new systems and for upgrading existing systems. System integrators will use it to facilitate the integration of existing and new systems. The JTA will mandate only what is necessary. It is focusing on standards, specifications, protocols and conventions vice products. The JTA will recognize market realities, focusing on commercial product availability.

The process of JTA development incorporates a Standards Selection/Conflict Resolution Working Group. The Section Leader works with Service/Agency Panel Section representatives. Service Panel representatives speak for the Service/Agency Developers.

Participants: The participants in the JTA process are listed below:

Mr. Rajmohan Ramaswami	DISA/CFS Chair
Mr. Paul Fang	J6
COL Joe Polito	DIA/SC-ERB
LTC Charles Petrie	DISC4/ADM
Ms. Marilyn Kraus	CISA
LtCol Art Decelles	OS-JTF
Dr. Chien Huo	USD(A&T)/DMSO
Mr. Hank Mendenhall	SPAWAR-331
Mr. Fred Virtue	USAF
Mr. Jim Davidson	ISS
Maj Desi McGlade	USMC
Mr. Fred Moxley	DISA (DII/COE)

He then provided an overview of the JTA document content which was similar to the Army Technical Architecture document with the exception of modeling and simulation. The document structure is as follows:

Section 1	Overview
Section 2	Info Processing
Section 3	Info Transfer
Section 4	Info Model & Data Exchange
Section 5	Human Computer Interface
Section 6	Info System Security
Section 7	Emerging Standards
Appendices	Acronyms, Definitions, References
Annexes	Domain Exceptions and Additions
Supplements	Service Exceptions and Additions

The current schedule for completing the JTA is indicated below:

18-19 Jan	First Working Meeting
26 Jan	Preliminary Draft JTA
20 Jan-1 Mar	2 Day Meetings every other week (30-31 Jan, 13-14 Feb, 27-28 Feb)
15 Mar	Working Draft JTA
1 Mar-15 Apr	Meeting 1 day a week and finalize JTA (6 Mar, 19 Mar, 26 Mar, 2 Apr, 9 Apr)

May 96 Submit JTA Version 1.0 for publication

Mr Ramaswami stated that future efforts on the JTA (once Version 1.0 is completed/approved) will include continuous technology updates because it is an evolving document.

There was discussion that an SMC needed to be formed to manage configuration of the JTA. Ms. Krause, CISA, expressed Dr Kaplan's concern that the JTA document must be kept up. COL. Williams stated that the CFS and SCC would work to keep the JTA up to date.

3. *OPEN SYSTEMS JOINT TASK FORCE*

Mr Leonard Burke**,** Director, Open Systems Joint Task Force (OS-JTF), presented a briefing on the OS-JTF Mission. Regarding policy, he stated that the Open Systems Approach will be used for acquisition of weapons system electronics. The Task Force charter states that the JTF will sponsor and accelerate the adoption of Open Systems. The scope of the JTF includes weapons systems and platforms but does not include C3I systems, communications networks and non-real time data processing functions. It also includes hardware, software, tools and architecture plus electrical, mechanical and thermal issues.

Mr. Burke then addressed the vision of the OS-JTF which is: to establish in DOD an open systems approach as the foundation for all weapon systems acquisitions in order to lower life cycle costs and improve weapons systems performance. He indicated that to execute the Vision required know how, industry and standards bodies awareness, opportunities, lessons learned, knowledge of key interface standards, integration of policy and transition to a continuing practice. He discussed the opportunities that the OS-JTF was pursuing. The OS-JTF assesses programs, providing OSD oversight, participates in IPT's and collaborates with demonstration programs. He said that a major program assessment was directed by PDUSD(A&T), Mr. Longamire, on 11 Jan 96.

The OS-JTF objective is to provide assessments that will determine if major programs are implementing effective open systems approach. The OS-JTF will provide recommendations on enhancements to these programs. They will also refine the concept of open systems approach and assessment methodology.

OS-JTF collaboration is evidenced through the nominations solicited by PDUSD in May 95. PEO (Air ASW, Assault and Special Mission) responded with AV-8B Open Systems Core Avionics Requirements. PEO (Tactical and Airlift Programs) responded with F-15 Multi-Purpose Display Processor. OSD Open Systems Demonstration Projects were designated 15 Feb 96.

The OS-JTF charter includes the responsibility to coordinate the identification and selection of open systems specifications and standards. Further, OS-JTF is the Lead Standardization Activity for Open Systems Weapons Electronics and will coordinate with the Executive Agent for Information Technology Standards. The OS-JTF leverages, coordinates, and assists on-going Technical Architecture efforts through organizations such as the Committee on Open Electronic Standards. It supports the development of key standards to meet weapon system needs in the areas of computing and networking plus RF/IF.

Mr Burke indicated that the COES (Committee on Open Electronic Standards) was jointly chartered by the Director OS-JTF and Chairman, SCC. Included on the COES are representatives of each service acquisition executive, SOCOM, DARO, and DISA/JIEO CFS. Observers include BMDO, NSA and NIST.

He then provided an overview of the Weapon System Domains covered by the OS-JTF charter which include:

C4ISR
- Command & Control, Communications
- Computers
- Intelligence
- Surveillance & Reconnaissance
- UAV's

Missiles
- Tactical Missiles
- Strategic Missiles
- Cruise Missiles
- Space Launch Vehicles

Aviation
- Manned
- Fixed Wing & Rotor Craft

Munitions
- Bombs (Dumb/Smart/Precision)
- Artillery

Missile Defense Systems
- Theater & National

Space Vehicles
- Satellites
- Spacecraft Bus

Automated Test Equipment

System Unique & Common
Ground Vehicles
Wheeled, Tracked & Armored
Manned & Unmanned
Training Systems
Simulators
Mission Planning Systems
Soldier Systems
Maritime Vehicles
Surface & Sub-surface
Chemical/Biological Systems

In closing Mr Burke stated that the Open Systems Joint Task Force is well on the way to accomplishing its mission. Further, they would integrate their efforts with the JTA work and possibly make provisions for a weapon systems annex in the JTA. He provided the SCC attendees with the OS-JTF homepage address:

Homepage: http://www.acq.osd.mil/osjtf
E-mail: burkehl@acq.osd.mil
Telephone: (703) 578-6568

4. *DEFENSE INFORMATION INFRASTRUCTURE (DII) COMMON OPERATING ENVIRONMENT (COE).*

COL Williams introduced Dr. Frank A. Perry, Defense Information Systems Agency, Technical Director for Engineering & Interoperability, to present a briefing on the Defense Information Infrastructure Common Operating Environment.

Dr. Perry defined the DII COE as a set of software applications that are the foundation for mission applications. The key goals of DII COE are interoperability, reuse and access to any information needed from a single terminal (within a security level).

He explained that there is no difference between the Global Command and Control System (GCCS) and the DII COEs. The DII COE is the next logical step in the evolution and capitalizes on years of lessons learned. The GCCS COE is specifically designed to meet the C2I requirements of The Warrior. The DII COE expands the playing field to include business and Combat Service Support functions at the mission application area. The same software and integration approach is being used to ensure interoperability.

He highlighted the TAFIM and explained what it provides. The TAFIM provides a Technical Reference Model in volumes 2 and 3 for a layered architecture. In volume 7 it provides the Adopted Information Technical Standards (AITS). These standards are necessary but not sufficient for interoperability. (The JTA will provide more focus to ensure Interoperability).

Dr Perry explained that the DII COE populates the TRM. The Functional Areas are Service/Agency responsibility. The DII COE provides the integration approach. An example of this is the DII COE Integration & Run Time Specification (I&RTS), Version 2.0 dated 23 October 1995. GCCS and GCSS build upon the DII COE.

He discussed in some detail the DII COE Integration & Run Time Specification which is the key to software integration across the DoD. DII COE I&RTS is a computer science document. It defines how mission applications and support applications can interact with the other layers of the system. It brokers key resources of the operating environment. It standardizes the key components of the application's data that must be used by a number of other applications. We must specify the Run Time Environment in which mission applications can (at a minimum) peacefully coexist. We specify the Application Packaging Environment to permit automated integration, installation and de-installation.

Every software project of significance must deal with at least these same integration issues. Each project evolves its own approach, which may not be compatible with the others. Many projects evolve their solutions on an ad hoc basis, relearning the same solutions and achieving varying levels of success. The DII COE I&RTS establishes a standard, compatible integration approach across all of DoD. It is a mature product of more than six years of evolution.

Dr. Perry provided the attendees the Internet URL for the DII COE home page: http://spider.ims.disa.mil/dii/diicoe.html.

He displayed a copy of the TAFIM diagram and showed how the DII COE populates the TRM with COTS and GOTS software components. He said that Applications Programmer Interfaces (APIs) provide services to higher layer components and that backward compatibility of APIs helps preserves the DoD's investment.

Dr. Perry showed how all 19 original GCCS COE components are retained through the DII COE 3.0 Taxonomy. He indicated the common support applications which include: message processing, correlation, on-line help, presentation, office automation, alerts, developer's kit, and mapping, charting, geodesy, and imaging. Further, infrastructure services include management, communications, distributed services & object management, data management and presentation.

He indicated that DII COE compliance measures the degree to which "Plug & Play" is possible. The four areas of compliance include: Run Time Environment, Style Guide (GUI Consistency), Architectural Compatibility, and Software Quality. He then provided a breakout of the DII COE Run Time Compliance Categories and indicated that they helped support multiple migration strategies.

The DII COE Run Time Compliance Categories are:

Levels 1&2	Non-interference when on the same LAN
Levels 3&4	Peaceful coexistence on the same workstation
Levels 5&6	Federation of systems
Levels 7&8	True integration

Dr Perry then summarized the Migration Strategy for the DII COE Implementation Methodology:

Establish base = COTS + GOTS
Refine COE Architecture
Identify requirements for COE components
Evolve COE component architecture
Migrate GOTS to accommodate new requirements
Phase out selected COE GOTS to COTS products
Migrate applications to use COE middleware

In closing, he discussed the DII Concurrent Development Process diagram which shows how to plan for change via a flexible architecture. The DII COE diagram shows the migration path from GCCS 2.1 and DII 1.0 to DII 3.0 projected in July 1996.

5. *SYMBOLOGY FRAME ISSUES*

CDR Roger D. Wells presented a background briefing on Symbology Frame Issues as they currently stand, covering the following events:

30 Aug 93	MCEB Task: Accelerated standard for Warrior Symbology
09 Feb 94	Ad Hoc Working Group chartered as formal Standards Management Committee
25 Jul 94	MCEB approved MIL-STD 2525 pending validation
30 Sep 94	Completed and published MIL-STD 2525, "Common Warfighting Symbology", Version 1
10 May 95	IIP approved validation concept

07 Sep 95	SSMC established Sep 96 as goal for publication of MIL-STD 2525A, Version 2. Land hierarchy and frame shapes reemerge as contentious issues.
06 Nov 95	Working groups meet to resolve hierarchy and frame issues. No resolution.
25 Jan 96	SSMC attempts resolution of hierarchy and frame issues. Land hierarchy possibly resolved. No resolution on frame shapes. Referred to SCC.

CDR Wells indicated that the goal of MIL-STD 2525 is to provide the JTF Commander with a logical, fused, and harmonized picture of the battlespace. It equips DoD with a standard solution that provides basic symbol frame shapes, a set of C4I symbols, a coding scheme for symbol automation, an information hierarchy, and a base set of rules for their application.

He indicated that the problem with MIL-STD 2525 is that symbol sets have developed over the years. In addition, they differ from service to service and even system to system within a service but each works well within its context. He stated that the number of useful primitive shapes is limited. The use of similar shapes with two different meanings is potentially confusing and could result in faulty tactical decisions.

The Air Force and Navy have indicated that use of both the rectangle and square causes potential confusion between friendly ground and unknown (potentially hostile) forces.

Several solutions were recommended during the staffing process: drop the rectangle, another solution is to keep the rectangle and swap the square and quatrefoil.

The symbology frame issues were aired through a series of points and counterpoints. The Army and USMC voiced their objection on elimination of the rectangle and proposed a compromise to the SCC. The basic premise understood by all that to achieve a common set of symbology for GCCS would require some change by all parties. After considerable discussion the SCC agreed with the compromise proposal of the Army and Marine Corps to modify the meaning of the MIL-STD 2525 square and quatrefoil frame shapes as follows:

Square to represent neutral forces and
Quatrefoil to represent unknown forces.

It is understood that the friendly symbol shape shall be dictated by the primary mission of the unit. Maritime surface units shall be depicted as a circle. All aircraft shall be depicted as a half circle. All ground units shall be depicted as a rectangle.

To clarify whether a unit is ground or air, one must evaluate its primary mission. An aircraft or aircraft unit which is comprised of aircraft only regardless of Service ownership shall be

depicted as a half circle. An Army or Marine helicopter squadron/battalion shall be depicted as a rectangle when being depicted as a maneuver unit (i.e., a unit whose ground support assets are included). Likewise landing craft whose primary mission is ferrying personnel or equipment to shore is a maritime unit and shall use the circle. Landing craft whose mission is to fight on land is a ground asset and shall use the rectangle.

COL Williams asked that each of the services and SCC members take the recommended solution back to their organizations and provide their results back to the Chairman by 20 March 1996.

6. *SECURITY FOR MILITARY MESSAGE HANDLING SYSTEMS (MMHS) IN NATO*

Mr. Nelson Alvarez, Information Transfer Standards Department, DISA/JIEO/CFS, presented a briefing on the security aspects of the MMHS.

He provided an overview of the work being done by the TSGCE SG/9 on Information Systems toward achieving secure and interoperable MMHS implementations in NATO. He said that there are two approaches to message handling security being implemented in NATO. The Functional Security Group S1C, defined in STANAG 4406, is supported by most European nations. Message Security Protocol (MSP), defined in Allied Communication Publication (ACP) 123 U.S. Supplement is supported by the US, Canada, and UK (at National Boundary). Both approaches are based on X.400.

He indicated that there is need for agreement upon security policy, protocols, algorithms and key management to achieve end-to-end interoperability. NATO's reluctance to use MSP will impact U.S. Forces operating in NATO.

He provided background information to help understand STANAG 4406 history. Version 1 of STANAG 4406 was submitted to SG/9 in December 1992. It is based on European Workshop for Open Systems (EWOS) profiles. The U.S. requested to use ISPs and agreed to harmonize with ACP 123. Draft Version 2 was used as the basis for implementation by Norway, France, Germany, United Kingdom, Belgium and Denmark. Version 2 was submitted to SG/9 in April 1995. It is based on ISPs and is harmonized with ACP 123 as far as possible. It includes the MTA/ACP 127 Gateway. S1C security is mandatory.

The U.S. position is that it will not ratify Version 2 as long as S1C is mandatory.

ACP 123 history shows that the ACP 123 Task Force commenced work in 1991. It was responsible to the Combined Communications-Electronic Board (CCEB) of AU, CA, NZ, UK, and U.S. They agreed to harmonize with STANAG 4406.

ACP 123 was issued in January 1995. It defines services and protocol but not a profile. It adopted P772 with the exclusion of S1C service and protocol definitions. There is no ACP 127 Gateway specification. ACP 123 only defines high-level security services. U.S. DMS security is based on MSP according to the U.S. Supplement to ACP 123. CCEB nations have agreed to use MSP at boundaries.

Mr Alvarez presented a chart showing a X.400-STANAG 4406 comparison.

Both MSP and S1C are protocols which support the following security services: message confidentiality, message integrity, message origin authentication, proof of origin and delivery and message security labels. Both protocols use signature, hash and encryption algorithms and require the support of a key management system. Both protocols are algorithm independent; the exact differences are still under study. Both protocols can be modified or extended.

The salient difference of S1C and MSP is in the placement of security information. S1C security label is on the message envelope and is available for routing and security context checks by MTA. The MSP security label is in the (P48) content and is encrypted when the message is encrypted.

S1C and MSP differ in access controls. S1C requires security context check and peer entity authentication check between MMHS objects. MSP places no requirements upon the MTS.

In proof of origin/delivery MSP supports stronger non-repudiation service than S1C mandates.

For security label structure STANAG 4406 requires a dual label structure to support both ADP system high sensitivity labels and user defined information labels. MSP as implemented in DMS only supports a single sensitivity label.

Mr Alvarez presented the current implementation Status:

In NATO SG/9 and the Communication Information Systems Security Implementation Working Group (CISSIWG) are investigating algorithms and key management to support NATO MMHS. NATO MMHS proposes to use interim algorithms defined by the NATO Office for Security (NOS).

Within MSP nations U.S DMS is using MISSI to support MSP. MISSI defines algorithms and key management system. CCEB nations have agreed to use MSP at boundaries to other CCED nations.

S1C is being implemented by several nations. The compatibility of "S1C nation" algorithms and key management systems is unknown.

The U.S. is offering MISSI technology to NATO. SG/9 is investigating the U.S. proposal of "S0" profile as a compromise. CCEB nations are developing a security profile based on MSP (ACP 120). A pilot program is being initiated at the Shape Technical Center (STC) to implement S1C and MSP MMHS solutions at their testbed. STC is to work on a demonstrator project to develop a convergence path between MSP and S1C solutions, including the definition of potential gateways.

7. *STATUS OF THE SATCOM INTEROPERABILITY AND STANDARDS COMMITTEE (SISC)*

Mr. Ed Kovanic, Information Transfer Standards Department, JIEO CFS, presented a information briefing on the background of the SISC. The OASD proposal is to consolidate all US MILSATCOM standards development activities in one organization under DISA. SISC has been proposed as the "one organization". An information briefing was presented to the SCC on 30 Aug 95. The SISC charter has been proposed. The first SISC meeting was conducted on 17-19 Jan 96. Mr Kovanic presented an overview of the MILSATCOM Standards Proposed Structure. There are two charters being proposed: a standards charter through the SCC and a second charter through the DUSD Space. He stated that the EHF, SHF, and UHF Working Groups were established by the SISC. Chairpersons need to be designated. JIEO CFS has volunteered to chair EHF and UHF, and to co-chair SHF with JIEO CFSE.

COL Williams stated that there are internal DISA discussions that need to take place to resolve the Charter and Working Group Chairpersons. The next SISC meeting is scheduled for May 96.

8. *NATO POST 2000 TACTICAL COMMUNICATIONS (TACOMS)*

Mr Louis J. Pilla, Information Transfer Standards Department, DISA-JIEO CFS, discussed the objective of the NATO POST 2000 (P2K) TACOMS. He stated the need to develop STANAGs to meet the NATO P2K Tactical Architecture. He said this would eliminate the current requirement for gateways between nations and will help improve information flow. NATO POST 2000 TACOMS is envisioned as a three-phase process: Phase 1-Review technologies for Post 2000 era, Phase 2-Develop Tactical Architecture and Phase-3 Form International Project Office (IPO).

Prior Actions have included the completion of Phase 2 Architecture in 1995. A draft Memorandum of Understanding (MOU) for Phase 3 is complete and being staffed within

ASD(A&T). The MOU establishes the IPO to manage STANAG development. The MOU forms an international contracting team to develop STANAGs. The IPO concept was presented to the IXMP and then to the SCC at its December 1995 meeting.

DISA presented two options: The IPO develops STANAGs or nations develop STANAGs.

Option 1 includes a requirement for the U.S to provide a project manager for 5.5 years. The cost is projected at $2.9M over 5.5 years plus technical support and PM support. DISA recommended that both USAF and USA share the responsibility for providing the PM during the life of the IPO and that the IXMP provide technical support.

Option 2 assigns STANAG development to nations vice contracting team.

The IXMP supported the IPO concept. SCC selected Option 1. No decision has been made on funding, but the recommendation was that one S/A fund. The USAF will provide the PM for 3 years. To date the U.S. Army has made no decision regarding supporting the IPO PM. The USMC agreed to share costs.

DISA submitted a decision paper to the Jan 96 MCEB, but the issue was not addressed. On 02 Feb 1996 DISA received a draft ASD(C3I) Memo to MCEB principals supporting IPO. The draft Memo included that Army and Air Force provide the PM, all services would provide technical support, DISA would retain leadership and funding, and DISA will provide yearly status reports to the MCEB. On 5 Feb 1996 DISA responded to the ASD(C3I) draft Memo and stated that DISA does not support the IPO. DISA recommended using the existing mechanisms. On 13 Feb 1996 Mr. Paige signed a slightly modified version of the draft Memo and distributed it to MCEB Principals.

Mr. Pilla stated that the ASD(C3I) position and message to the U.S. mission was to support the IPO concept. DISA will be responsible for providing funding. The USA and USAF will provide PMs. The technical support for IPO will be provided by IXMP with the support of the services. Finally, the plenary and working groups will support the U.S. representative to the IPO.

COL Williams said that active technical involvement by the services was essential to the successful support of the IPO PM.

Finally, Mr Pilla indicated that the MOU would probably be approved in November of 1996 and that the services and agencies need to program TDY funds to support IXMP and plenary and

working groups in the coming budget and out years. In conclusion, he indicated that the U.S. is continuing to address the MOU.

9. EVALUATION MODELS FOR STANDARDS AND STANDARDS-BASED PRODUCTS

Mr. Bert Newlin introduced Ms. Judy Popelas, from Institute of Defense Analysis (IDA) who presented a briefing on Evaluation Models for Standards and Standards-based Products. She indicated that the purpose of the models is to provide guidance in choosing among competing standards or products on the market and assessing a single standard or product relative to need. Further, it helps to identify risk areas.

Models are not intended to provide guidance in determining whether standards should be used, determining whether COTS products should be used, determining which standards or products are relevant nor determining which profiles of standards are best.

The structure of the models is such that there are 15 evaluation criteria for standards and 21 evaluation criteria for standards-based products. Related evaluation criteria are grouped into categories. There are 4 categories for standards and 7 categories for standards-based products. There are assessment guidelines for the evaluation criteria. Five assessment levels include excellent, good, average, fair and poor. The guidelines for excellent are presented first. The criteria are assessed at the first level that is completely satisfied.

Further effort may be applied in complete assessment guidelines for product evaluation models. Another effort would be to evaluate standards, with emphasis on marketplace criteria. This would create a consumer's guide to standards. Another further effort would be to evaluate products, to support COTS policy. It will focus on products for the top 15-20 standards and create a consumer's guide to products. Another effort would be to improve evaluation models, based on usage.

The OS-JTF requested that the IDA personnel arrange to come brief them on their product.

Ms Popelas indicated that the IDA document "Evaluation Models for Standards and Products" will be available by late March 96. POC is Judy Popelas, IDA, 1801 N. Beauregard St., Alexandria, VA 22311, phone (703) 845-6624.

10. *STANDARDS PROCESS WORKING GROUP FINDINGS AND RECOMMENDATIONS: FINAL REVIEW*

Mr. Berrios, Standards Assistance Department, DISA, JIEO, CFS, reviewed his white paper and discussed the comments he had received from his staffing action when he handed out the paper at the SCC meeting in December. He walked the SCC through the comments and his proposed recommendations which are listed below:

a. Coordinate recommendations as appropriate with Defense Standardization Program (DSP) Managers.

Recommended action: DepSo coordinate as appropriate.

b. Recommend DSP IT standardization areas be consolidated into three areas: Information Transfer, Information Processing, and Information Technology.

Recommended action: None. Areas are clearly mapped into the DSP areas.

c. Recommend developing an education or training program for the acquisition community that focuses on standards implementation.

Comment: OS-JTF is currently pursuing a similar program. The need still exists.

d. Testing organizations not always represented within the current standards process.

Recommended action: Incorporate into the white paper and the IT Standards Management Plan.

e. Recommend prioritizing standards requirements. (Top 10 List)

Recommended action: Incorporate into the white paper and the IT Standards Management Plan.

f. Increased participation in standards committees and working groups can only be achieved by prioritizing standards efforts, not consolidation of SMCs or WG.

Recommended action: Open for discussion. Anticipate greater participation with implementation of the preceding item (Prioritized standards requirements).

g. Voting members should take into account the potential costs and other impacts new standards could have on CINCs and Services.

Recommended action: Incorporate into the white paper and the IT Standards Management Plan.

h. CINCs, Services, or Agencies should not be restricted from participating in non-Government or other standards fora.

Comment: C/S/A are not restricted from participating in non-Government or other standards fora. The "official DOD" representatives to these bodies, however, is by Executive Agent appointment.

i. The Approval Authority to pursue development of a military standard should remain at the SMC level, not the SCC.

Comment: SMC is the lead, but SCC Chairman is the final decision authority.

j. Recommend the Adoption Phase be eliminated from the current standards process model.

Recommend Non-concurrence. Open for discussion.

Mr. Berrios presented these future actions:

Close all existing actions pertaining to the Standards Process Improvement Task.

Open a new action to develop a methodology for the review and consolidation of DoD representation to non-Government standards fora.

Open a new action to address procedures for improving feedback of DoD representatives to non-Government fora into the IT Standards Process.

Revise IT Standards Management Plan as appropriate.

11. *AITS 3.0*

Mr John Stanton, CFS, presented a briefing on the adoption of AITS 3.0. The SD-1 4120-1-M process is complete. A matrix of comments for the Army, Air Force, Navy and DOD showed that 163 comments were received, 147 comments were resolved and 16 comments were deferred.

There are no significant structural changes to the AITS. The document is stabilizing with new standard versions. It is anticipated that AITS 3.1 will contain major new sections for multimedia and human factors. Other accomplishments include AITS/TRM harmonization and TAFIM/AITS schedule harmonization.

The AITS Version 3.0 was approved contingent on MIL-STD 2525 issues being resolved; they are in the approval process and not binding until formal resolution. The CFS will mark the standard with that caveat.

12. *REVIEW OF ACTION ITEMS*

COL Williams reviewed the list of Action Items from the previous meetings and closed items 3-95-02, 2-95-05 and 4-95-01. He reviewed the new issues that arose from this meeting with the SCC members and the CFS staff. They are listed at Appendix C.

14. *CLOSING REMARKS*

COL Williams thanked the participants for their information updates and decision briefings and the results of those decisions. He felt that they were important issues for the SCC. He stated again the importance of the task facing the IT standards community working with CISA to complete development of the JTA by May. The next meeting of the SCC is scheduled for 4 June 1996. In closing, COL Williams thanked all in attendance for their time and support and adjourned the meeting at 1558 hours.

APPENDIX A
STANDARDS COORDINATING COMMITTEE
ATTENDANCE ROSTER
5 MARCH 1996

Organization/Company Name	Member's Name
DNA	Allen, Dr. Harold
JIEO/JEBBD	Alvarez, Mr. N
DIA	Beckwith, MAJ B
Secretariat/SCC	Becker-Sabik, Ms. Patti
SOUTHCOM	Bennett, Mr. Raymond
OSD/C3I Command & Control	Bennett, COL M.
JIEO/CFS	Berrios, Mr. Will
JIEO/CFS	Bragg, Mr. Norton
JIEO	Chase, Mr. Mike
JIEO/CFS	Clements, Ms. Carol
JIEO/CFS	Conway, Ms. Virginia L.
DMA	Ferrari, Mr. Gordon
ASD/Economic Security	Gagnon, Mr. B
HQ USAF/SCTA	Hart, Mr. Jim
ACOM	Holroyd, MAJ Doug
USD (A&T)/DMSO	Huo, Mr. Chien
CNO N65	Jones, Mr. Russell
DISA/CFS	Koerner, Mr. Gary
JIEO	Kovanic, Mr. E
CISA	Kraus, Ms. Marilyn
MCCDC Quantico	Krivdo, Mr. Mike
JIEO/CFS	Jackson, Mr. Owen

Organization/Company Name	Member's Name
DIS	Lambert, Mr. David
DISA/CFS	Law, Steven
JIEO/CFS	Lieu, Mr. James
PEO-SES	Joss, Mr. J
Joint Logistics Commanders C&E	Machado, Mr. J.
Joint Staff	Maher, Mr. Jack
USMC MCCDC REQR	McGlade, Mr. D.P.
HQ USAF/TNBC	McKinnion, Mr. Rex
ASD/C3I/IT	Newlin, Mr. Burt
JIEO/CFS	Pilla, Mr. Lou
USSPACECOM/J6	Potter, Mr. T
SPAWAR	Pucci, Mr. John
PRINCIPAL DEPUTY CFS	Ramaswami, Mr. Raj
STRATCOM/J614	Ramsey, Mr. L.
STRATCOM/J6M	Ramsey, Mr. L.
DISA/CFS	Richards, Mr. Ed
US ARMY/ODCSOPS	Salice, Mr. Henry
CIO	Seybold, Mr. Jim
NRO	Shane, Mr. David
DISA/CFS	Son, Mr. Huynh
DISA/CFS	Sweet, Mr. David
DISA/CFS	Taylor, Ms. Dianne
NISMC	Vaughan, Mr. David
NISMC	Wade, Ms. Rebecca
Chairman/SCC	Williams, COL James

Organization/Company Name	Member's Name

APPENDIX B

STANDARDS COORDINATING COMMITTEE
AGENDA
5 MARCH 1996

0800-0815	INTRODUCTION - COL James L. Williams
0815-0900	DII/COE - Dr. Perry
0900-0930	JTA PROGRESS REPORT - Mr. Ramaswami
0930-1000	STATUS OF WEAPON SYSTEMS OPEN STANDARDS - Mr. Burke
1000-1015	BREAK
1015-1100	SYMBOLOGY MILSTD 2525 FRAME SHAPE ISSUES - CDR Wells
1100-1130	SECURITY FOR MMHS IN NATO - Mr. Alvarez
1130-1230	LUNCH
1230-1300	SISC STATUS - Mr. Kovanic
1300-1330	NATO POST 2000 TACOM UPDATE- Mr. Pilla
1330-1400	EVALUATION OF STANDARDS AND STANDARS BASED PRODUCTS - Institute of Defense Analysis
1400-1415	BREAK
1415-1445	STANDARDS PROCESS IMPROVEMENT - Mr. Berrios *(Action Items 4-95-02 and 2-95-04)*
1445-1515	DSIC UPDATE - Mr. Sweet
1515-1530	AITS VERSION 3.0 APPROVAL - Mr. Stanton

1530-1545 ACTION ITEM REVIEW

1545-1600 CLOSING REMARKS

APPENDIX C

STANDARDS COORDINATING COMMITTEE
LIST OF ACTION ITEMS
5 MARCH 1996

Action Item #1-96-02	Symbology issue and frame shapes included (in both old and new). The SCC agrees to the final decision, as written, unless the Air Force or the Navy nonconcurs within two weeks by March 19.
Action Item #1-96-03	Army and Air Force are to share their positions with the SCC regarding the IPO with the SCC before the 10 of April 1996 MCEB.
Action Item #1-96-04	Develop a methodology for the review and consolidation of DoD representation to non-government standards fora.
Action Item #1-96-05	Address procedures for improving feeback of DoD representatives non-government fora into the It standards process.

Carried over from 2525 issue.

Point	Counterpoint
Continued use of the rectangle does not adversely impact on standardization.	The rectangle is a modified square. Discriminability problems arise when two forms of the same shape are used to depict different things.
No study exists to demonstrate one set is better than another.	Studies exist which prove Discriminability of shapes. The goal is to produce a "common" set, with harmonized definitions. When symbols conflict an objective, rational choice should be made.
The Army and USMC use the rectangle for friendly because of high Discriminability	The Navy and USAF use the square/ diamond for unknown/hostile because of high Discriminability
The Army successfully demonstrated the adequacy of the rectangle for it purposes	This has never been disputed but is irrelevant. The Army has never shown the inadequacy of the circle for its purposes
Compliance with the standard would dictate review and revision of doctrinal and reference pubs	True for all services and unavoidable for any change in status quo
Lack of operational testing to validate the new concept as better than current one	New symbology set needs to be tested, but for applicability in the joint arena. The Army doesn't need a new system but the JTF commander does
The U.S. will be in non-compliance with an established, ratified STANAG that we ourselves initiated	There is no international joint symbology standard. Our tactical and operational doctrine is changing and so must its supporting structures
SSMC failed to base the effort on existing working standard symbology sets	Used STANAGs 2019 and 4420, FM 101-5-1, JTIDS and NTDS as starting points for symbology. Widely

	divergent sets were harmonized using human factors considerations
The square is a subset of rectangle and a source of confusion	The square is widely used in the time critical engagement domain and is more space efficient than the rectangle. Both shapes should be used concurrently with different meanings
The circle should be dropped as a frame shape due to low discriminability	There are a very limited number of usable primitive shapes. To drop one in favor of using two forms of another is not logical.
Adoption of the 2525 will cost friendly casualties and lives.	Adoption will help save lives by reducing sources of confusion and misinterpretation in the joint command center by using a commonly understood graphic language.